Key to Icons


Web site.*


Interagency agreement.

437.01 Introduction

Wetlands provide important functions and values, including groundwater recharge, floodflow alteration, water quality improvements, erosion control and shoreline stabilization, as well as fish and wildlife food and habitat. This chapter includes information on wetland inventory, assessment, mitigation, and related procedures that should be followed when it is anticipated that a WSDOT project may have an impact on wetlands. It should be noted that wetland issues have the potential to trigger an analysis of aquatic and terrestrial wildlife and habitat in the vicinity of the wetland. The listing of salmonids under the Endangered Species Act (ESA) has heightened some aspects potential impacts to wetlands from WSDOT projects (see **Chapter 436**).

Impacts of transportation projects that may adversely affect wetlands include: sediment loads and deposition; toxic runoff; alteration of natural drainage patterns; water level increases or decreases; wetland filling or displacement; wetland draining due to channel straightening, deepening, or widening; and development in the wetland buffer areas that protect and shield the wetland from adverse impacts to water quality and habitat functions. When wetlands are adversely affected by a transportation project, WSDOT provides compensation for the impacts by restoring, enhancing, and/or creating wetlands. Project impacts that affect water quality are further addressed in **Chapter 431**.

The chapter focuses mainly on road projects. Policies, procedures, and permit requirements specific to ferries, airports, rail, and non-motorized transport are addressed in **Section 437.07**.

(1) Summary of Requirements

WSDOT policy is to avoid to the fullest extent practicable any activities that would adversely affect wetlands during the design, construction, and

*Web sites and navigation referenced in this chapter are subject to change. For the most current links, please refer to the online version of the EPM, available through the ESO home page: http://www.wsdot.wa.gov/environment/

maintenance of the state transportation system. WSDOT supports federal and state "no net loss" policies by protecting, restoring, and enhancing natural wetlands that are unavoidably and adversely impacted by transportation-related construction, maintenance, and operations activities. WSDOT is committed to taking appropriate action to minimize impacts and to mitigate impacts that cannot be avoided, as required by federal, state, and local laws. In the event of unavoidable impacts, WSDOT policy is to consider the use of mitigation concepts. These include wetland mitigation banking and advanced mitigation such as wetland preservation where no overall net loss of functions will result. Applicable policies are referenced in **Section 437.03**.

Wetland analysis and impact mitigation are integral parts of the engineering and environmental process. Early review and analysis of project alternatives by regulatory and resource agencies, combined with effective inter-office coordination, are key elements in meeting project schedules and developing a successful wetland management program.

Environmental reports sometimes include information on additional aquatic resources (such as streams) together with wetland issues. In routine wetland practice, the four WSDOT wetland discipline reports (Wetland Inventory Report, Wetland/Biology Report, Conceptual Mitigation Plan, and Wetland or Environmental Mitigation Plan) provide the basis for responding to wetland issues. To facilitate the production of a wetland discipline report, technical documents that pertain directly to a given discipline report are included as reference documents for that particular report. The checklists and reference documents are described in **Section 437.05**.

Information on policy and technical documents, MOUs, Interagency Agreements, permits, certificates, and approvals included in this chapter provides background useful in preparing the WSDOT wetland discipline reports.

(2) Abbreviations and Acronyms

Abbreviations and acronyms used in this chapter are listed below. Others are found in the general list in **Appendix A**.

401 Certification	Clean Water Act Section 401 Water Quality Certification
ATMS	WSDOT's Automated Training Management System
BPJ	Best Professional Judgment
CAO	Critical Areas Ordinance
Corps	U.S. Army Corps of Engineers
CTED	State of Washington Department of Community, Trade and Economic Development
CWA	Clean Water Act
CZM	Coastal Zone Management
DNR	Washington State Department of Natural Resources
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
GMA	Growth Management Act
HGM	Hydrogeomorphic Model
JARPA	Joint Aquatic Resources Permit Application
LA	Landscape Architect

NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWP	Nationwide Permit
PE	Project Engineer
PHS	Priority Habitats and Species
PS&E	Plans, Specifications, and Estimates
REC	Regional Environmental Coordinator
SAC	Signatory Agency Committee
SAO	Sensitive Areas Ordinance
SMA	Shoreline Management Act
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WDFW	Washington State Department of Fish and Wildlife
WSPI	Wetland Strategic Plan Implementation

(3) Glossary

Many technical terms are associated with wetlands. A glossary of wetland terminology, including terms used in mitigation banking, is presented in **Exhibit 437-1**. See **Appendix B** for a general glossary of terms used in the EPM.

437.02 Applicable Statutes and Regulations

This section lists the primary statutes and regulations applicable to wetland issues. See **Appendix D** for an index of statutes referenced in the EPM. Permits and approvals required pursuant to these statutes are listed in **Section 437.06**.

(1) Federal

(a) National Environmental Policy Act

The National Environmental Policy Act (NEPA), 42 USC Section 4321, requires that all major actions sponsored, funded, permitted, or approved by federal agencies undergo planning to ensure that environmental considerations such as impacts on wetlands are given due weight in decision-making. Federal implementing regulations are at 23 CFR 771 (FHWA) and 40 CFR 1500-1508 (CEQ). For details on NEPA procedures, see **Chapter 410** and **Chapter 411**.

(b) Clean Water Act

The Water Pollution Control Act, better known as the Clean Water Act (CWA), 33 USC Section 1251 *et seq*., provides for comprehensive federal regulation of all sources of water pollution. It prohibits the discharge of pollutants from non-permitted sources. The CWA authorizes the USEPA to administer or delegate wetland regulations covered under the act, which in Washington State is mainly to the U.S. Army Corps and Ecology. USEPA administers CWA implementation on tribal and federal land. Implementation requirements for CWA Sections 401, and 404 are described in **Section 540.02** and **Section 520.02**. The law is online at:

http://www4.law.cornell.edu/uscode/

Scroll down and click on Title 33, then scroll down and click on Chapter 26.

Or by direct link:

http://www4.law.cornell.edu/uscode/33/ch26.html

(c) Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1972, 16 U.S.C. 1451 *et seq*., and its regulations, 15 CFR Parts 923-930, was enacted to encourage advancement of national coastal management objectives and assist states to develop and implement management programs. Washington's Coastal Zone Management (CZM) Program has been approved by the National Oceanic and Atmospheric Administration (NOAA) and is administered by Ecology. Under the program, cities and counties can develop local management plans that must be approved by Ecology. Ecology also provides general program overview and support. Implementation of the act is described in **Section 540.03**. For details, see **Section 452.02**. The law is online at:

http://www4.law.cornell.edu/uscode/

Scroll down and click on Title 16, then scroll down and click on Chapter 33.

Or by direct link:

http://www4.law.cornell.edu/uscode/16/ch33.html

(d) Endangered Species Act (ESA)

This act is administered by USFWS and NOAA Fisheries. Formal consultation under the act is triggered by a federal nexus including permits, funding or actions on federal land, and by the potential harm, harassment, or take of listed species or impacts to their habitat. Informal consultation under Section 10 of the act requires applicants to comply with the ESA even if a federal nexus does not occur. The ESA has relevance to wetlands section because of listed aquatic species. Please see **Section 436.02** for details. The law is online at:

http://www4.law.cornell.edu/uscode/

Scroll down and click on Title 16, then scroll down and click on Chapter 35.

Or by direct link:

http://www4.law.cornell.edu/uscode/16/ch35.html

(e) Protection of Wetlands, Presidential Executive Order 11990

Presidential Executive Order 11990 (May 1977) requires federal agencies to minimize the loss or degradation of wetlands and enhance their natural value. WSDOT projects with federal funding are subject to this order. The document is available on FHWA's web site:

http://www.fhwa.dot.gov/

Click on FHWA Programs; then Planning, Environment, and Real Estate Services; then Environmental Guidebook and scroll down in paragraph 4 and click on Natural Environment; then Wetlands.

Or by direct link:

http://environment.fhwa.dot.gov/guidebook/chapters/v1ch14.htm

Click on Wetlands.

(f) Preservation of the Nation's Wetlands, U.S. Department of Transportation Order DOT 5660.1A

This order (August 24, 1978) describes U.S. Department of Transportation (DOT) policy that transportation facilities and projects should be planned, constructed, and operated to assure the protection, preservation, and enhancement of the nation's wetlands to the fullest extent practicable. The order established procedures for implementation of the policy. This document and WSDOT information on wetland assessment, mitigation and monitoring are available at the following web site under Wetland Guidelines:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

(2) State

(a) State Environmental Policy Act

The State Environmental Policy Act (SEPA), requires that all major actions sponsored, funded, permitted, or approved by state and/or local agencies undergo planning to ensure environmental considerations such as impacts on wetlands are given due weight in decision-making. State implementing regulations are in WAC 197-11 and WAC 468-12 (WSDOT). For details on SEPA procedures, see **Chapter 410** and **Chapter 411**.

(b) Protection of Wetlands, Governor's Executive Order EO 89-10

This Governor's Executive Order (December 11, 1989) commits state agencies to the "no net loss" wetland policy, and to the encouragement of sensitive site design and planning on a watershed basis to avoid or minimize damage to wetlands. The order designates Ecology to provide guidance on wetland issues, and instructs each affected state agency to develop an action plan to lessen the loss of wetlands and to preserve or enhance the values of wetlands. This document and WSDOT information on wetland assessment, mitigation and monitoring are available at the following web site under Wetland Guidelines:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

(c) Protection of Wetlands, Governor's Executive Order EO 90-04

This Executive Order (April 21, 1990) is more comprehensive than EO 89-10. Order 90-04 requires all state agencies to rigorously enforce their existing authorities to assure wetlands protection. State agencies are required to promote and support mitigation in the order of decreasing preference from avoidance to compensatory mitigation. This document

and WSDOT information on wetland assessment, mitigation and monitoring are available at the following web site under Wetland Guidelines:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

Statutes and regulations identified in the Governor's EO include SEPA, Shoreline Management Act, Corps Section 404 permits, Ecology's water quality certifications, Ecology's water quality standards, WDFW's Hydraulic Code authority, the Puget Sound Water Quality Authority's implementation of the Puget Sound Plan, the Department of Agriculture's permit system for application of pesticides, the Forest Practices Board's forest practices rules, and grants and loans by the State of Washington Department of Community, Trade and Economic Development (CTED) and Community Economic Revitalization Board.

Ecology's requirements include developing state-wide policies and standards on a variety of wetland issues, and providing technical and educational assistance to state and local regulators.

(d) Clean Water Act State Implementation

Water quality regulations are mandated by the federal Clean Water Act (Water Pollution Control Act) described above. RCW 90.48 is the primary water pollution law for the state of Washington. WAC 173-201A mandates water quality standards for state surface water requirements. Ecology issues a 401 certificate of water quality compliance for each CWA Section 404 permit (see **Section 437.06**). Ecology also has the authority to issue administrative orders for projects not requiring 404 permits. The statute is online at:

http://slc.leg.wa.gov/

Click on RCW, then Title 90, then 90.48, Water Pollution Control; and go to WAC, then Title 173, then Chapter 173-201A, Water Quality Standards for Surface Waters.

Or by direct link for RCW 90.48:

http://www.leg.wa.gov/RCW/index.cfm?fuseaction=chapterdigest&chapter=90.48

Or by direct link for WAC 173-201A:

http://www.leg.wa.gov/wac/index.cfm?fuseaction=chapterdigest&chapter=173-201A

(e) Growth Management Act

In 1990, the Washington State Legislature adopted the Growth Management Act (GMA), codified as RCW 36.70A. This statute, combined with Article 11 of the Washington State Constitution, mandates that local jurisdictions adopt ordinances that classify, designate, and regulate land use in order to protect critical areas. Critical areas include, among others, wetlands and their buffers; these areas are regulated locally

through critical/sensitive areas ordinances. See **Section 451.02** for more information on the GMA. The statute is online at:

http://slc.leg.wa.gov/

Click on RCW, then Title 36, then Chapter 36.70A, Growth Management.

Or by direct link:

http://www.leg.wa.gov/RCW/index.cfm?fuseaction=chapterdigest&chapter=36.70A

(f) Shoreline Management Act (SMA)

The goal of Washington's Shoreline Management Act (RCW 90.58) is "to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines. The act establishes a broad policy of shoreline protection, which includes wetlands.

The SMA uses a combination of policies, comprehensive planning, and zoning to create a special zoning code overlay for shorelines. Under the SMA, each city and county can adopt a shoreline master program that is based on state guidelines but tailored to the specific geographic, economic and environmental needs of the community. Master programs provide policies and regulations addressing shoreline use and protection as well as a permit system for administering the program.

Please refer to **Section 452.02** for more details about the SMA and local Shoreline Master Programs.

http://slc.leg.wa.gov/

Click on RCW, then Title 90, then 90.58, Shoreline Management Act. The state guidelines for Shoreline Master Programs can be found at Chapter 173-26 WAC.

Or by direct link for RCW 90.58:

http://www.leg.wa.gov/RCW/index.cfm?fuseaction=chapterdigest&chapter=90.58

Or by direct link for WAC 173-26:

http://www.leg.wa.gov/WAC/index.cfm?fuseaction=chapterdigest&chapter=173-26

(g) Coastal Zone Management Act Certification (CZM)

Ecology includes a CZM consistency response with the CWA 401 certification for any work in the 15 coastal counties. For more detail, please see **Section 437.06** and **Section 540.03**.

(h) Wetland Mitigation Banking

The 1997 Washington State Legislature passed a law (RCW 90.84) directing Ecology to adopt a rule for the certification of wetland mitigation banks. The statute requires that Ecology use a collaborative process to develop the rule. Ecology's approach to writing the rule is outlined in a

rule development plan. The rule will become WAC 173-700, Wetland Mitigation Banks.

Ecology has recruited an advisory team to help prepare rule language. The following web site posts the team's meeting agendas and summaries of all meetings. The web site also includes general information about wetland banking, RCW 90.84, Ecology's rule development program, opportunities for public involvement throughout the process, and links to related sites:

http://www.ecy.wa.gov/

Click on Programs, then Shorelands and Environmental Assistance, then Wetlands, then look under Wetlands Mitigation to find Mitigation Banking.

Or by direct link:

http://www.ecy.wa.gov/programs/sea/wetmitig/index.html

437.03 Policy Guidance

(1) Federal Policy Guidance

(a) U.S. Army Corps of Engineers Water and Wetland Protection Guidance

The Corps regulatory program concerns not only the integrity of traditional navigable waters, but also the quality of waters of the United States, from wetlands to the territorial seas. For concise current information on Corps policies regarding wetlands, consult the Corps Seattle District web site:

http://www.nws.usace.army.mil/index.cfm

In left sidebar click on Regulatory/Permits. Also, and under Civil Works, click on Environmental Resources Section.

Or by direct link to regulations:

http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=REG&pagename=Home_Page

Or to direct link to environmental resources:

http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=ERS&pagename=ERS_Home

(b) U.S. Fish & Wildlife Service Mitigation Policy, Federal Register, Vol. 46, No. 15

This document (January 23, 1981) can be located at the web site below; the preamble to the policy (not located on the web site) is available at the following web site under Wetland Guidelines:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

These two documents established policy for USFWS recommendations on mitigating the adverse impacts of land and water developments on fish, wildlife, and their habitats. The policy does not apply to threatened or endangered species or to the enhancement of fish and wildlife resources. The focus is on recommendations related to habitat value losses. USFWS

commits to promote and support mitigation in the order of decreasing preference from avoidance to compensatory mitigation.

The USFWS mitigation policy provisions complement NEPA requirements. In fact, the NEPA regulations require that USFWS recommendations be fully integrated into the NEPA process as vital information necessary to comply with NEPA. The policy is online at:

http://www.fws.gov/

Click on Search, type in Mitigation Policy, and select Mitigation Policy, U.S. Fish and Wildlife Service.

Or by direct link:

http://www.fws.gov/r9dhcbfa/hpmpol.htm

(c) U.S. Environmental Protection Agency Region 10 404 Mitigation Policy

This document (September 4, 1985) establishes USEPA Region 10 policy on mitigating for adverse impacts on wetlands permitted under Section 404 of the CWA. USEPA commits to a no net loss wetland policy and to cooperating with other resource agencies in developing site-specific mitigation plans, including mitigation banking. USEPA also commits to promote and support mitigation in the order of decreasing preference from avoidance to compensatory mitigation. This document and WSDOT information on wetland assessment, mitigation and monitoring are available at the following web site under Wetland Guidelines:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

(d) Federal Guidance for Mitigation Banking

This document provides policy guidance for the establishment, use and operation of mitigation banks for the purpose of providing compensatory mitigation for authorized adverse impacts to wetlands and other aquatic resources. This guidance is provided expressly to assist federal personnel, bank sponsors, and others meeting the requirements of Section 404 of the Clean Water Act (CWA), Section 10 of the Rivers and Harbors Act, and other applicable federal statutes and regulations. The policies and procedures discussed herein are intended only to clarify the applicability of existing requirements to mitigation banking.

The policies and procedures discussed are applicable to the establishment, use and operation of public mitigation banks and privately-sponsored mitigation banks, including third party banks (e.g., entrepreneurial banks). The guidance is available online at USEPA's web site:

http://www.epa.gov/owow/wetlands/

Click on Laws, Regulations, Guidance, and Scientific Documents; then Guidance; then find 1995 Mitigation Banking Guidance (under Mitigation/Mitigation Banking).

Or by direct link:

http://www.epa.gov/owow/wetlands/guidance/mitbankn.html

(2) State Policy Guidance

(a) Washington Transportation Commission

The Transportation Commission's Policy Catalog contains a specific policy on wetlands conservation. Policy 6.3.4 acknowledges that population growth, urban runoff, erosion, and current construction practices all contribute to the destruction and degradation of wetlands in the state. The Commission's goal is to "support federal and state 'no net loss' policies by protecting, restoring, and enhancing natural wetlands adversely impacted by transportation-related construction, maintenance, and operations activities."

(b) Protection of Wetlands Action Plan, Washington State Department of Transportation Directive D31-12

This WSDOT directive (August 1, 1990) is in response to and support of EO 89-10 and EO 90-04, which require that each state agency develop an action plan for the protection of wetlands. This document and WSDOT information on wetland assessment, mitigation and monitoring are available at the following web site under Wetland Guidelines:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

WSDOT policy is to avoid, to the fullest extent practicable, any activities that would adversely affect wetlands in designing, constructing, and maintaining the state transportation system. Where it is not possible to avoid wetlands, WSDOT will take appropriate action to minimize wetland impacts and to adequately mitigate impacts that cannot be avoided.

Appendix 1 of the Directive describes WSDOT's Action Plan for the Protection of Wetlands. The Action Plan includes actions for impact identification, wetland inventory, project prospectus, agency SEPA policy, wetland mitigation banks, wetland management agreements, wetland research, wetland buffers, and wetland education programs. The plan includes the following components:

- Design – including project design alternative analysis, wetland/biology analyses and reports, environmental documents, project design documents, wetland mitigation plan, and permit applications.
- Land management – including wetland preservation on WSDOT-owned properties, and wetland preservation maps.
- Construction – including mitigation implementation, disposal sites, drainage facility construction, and pile driving.
- Maintenance – including mitigation implementation, disposal of waste materials, and roadside management planning for the protection of wetlands.

437.04 Interagency Agreements

(1) Wetland Protection and Management Implementing Agreement

The purpose of this agreement between WSDOT and Ecology is to clarify and promote interagency coordination in wetland protection and management. The agreement also institutes a wetland training program to benefit staff from both agencies and establishes a process for conflict resolution.

Coordination between WSDOT and Ecology is strongly encouraged. Permit coordination staff from other agencies are invited to meetings on a case-by-case basis.

Under the agreement, the two agencies determine policies of mitigation, preservation, mitigation banking, and training programs. The following appendices provide guidelines and other information to assist interagency coordination:

Appendix A. List of WSDOT and Ecology Wetlands-Related Staff.

Appendix B. Documents of the Project Development Process.

Appendix C. WSDOT Guidelines for Wetland Reports.

Appendix D. WSDOT Guidelines for Wetland Mitigation Plans.

Appendix E. Guideline for Compensation Mitigation Ratios.

Appendix F. List of Invasive/Exotic Plant Species.

Appendix G. Definitions of Wetland Terms.

This agreement is online at:

http://www.wsdot.wa.gov/environment/compliance/agreements.htm

Implementing Agreement between the Washington State Department of Transportation and the Washington State Department of Ecology Concerning Wetlands Protection & Management. July 1, 1993.

(2) Wetland Mitigation Banking Memorandum of Agreement

The purpose of this Memorandum of Agreement is to establish the principles and procedures that signatories will adhere to when establishing, implementing, and maintaining the WSDOT Wetland Compensation Bank Program. Signatories are the Corps, USEPA, USFWS, NOAA Fisheries, FHWA, Ecology, WDFW, and WSDOT.

The MOA and its appendices include goals of the MOA and the Wetland Compensation Bank Program; definitions; oversight committee issues; methods for establishing and maintaining wetland bank sites; criteria for the use of wetland banks; use and calculation of banking currency, credits, and debits; requirements for inspections and monitoring of bank sites; methods of maintaining the MOA; and references.

Criteria for bank use are likely to change from those presented in this MOA. An Ecology rulemaking process on wetland banking is underway and WSDOT is participating in the process. After adoption, the Ecology rule will take

precedence over the MOA. When the WSDOT wetland mitigation banking policies are developed they will be provided in this manual.

The MOA can be viewed at:

http://www.wsdot.wa.gov/environment/

Click on Wetland Information, then Alternative Mitigation, then scroll down to WSDOT Memorandum of Agreement.

Or by direct link:

http://www.wsdot.wa.gov/environment/biology/docs/WetlandMOAFinal1994.pdf

Washington State Department of Transportation Wetland Compensation Bank Program: Memorandum of Agreement. September 15, 1994.

(3) *Signatory Agency Committee Agreement to Integrate Aquatic Permit Requirements into NEPA/SEPA Process*

The Signatory Agency Committee (SAC) Agreement applies to all WSDOT projects requiring a Corps of Engineers (Corps) Individual Section 404 or Section 10 permit and FHWA action on a NEPA EIS. Signatories are FHWA, NOAA Fisheries, Corps, USEPA, USFWS, Ecology, WDFW, and WSDOT. These agencies aim to integrate conditions of aquatic related permits and approvals, with the NEPA/SEPA processes at the planning, programming and project development stages. The SAC process involves requests for resource agency "concurrence" at critical point in the NEPA process.

The following appendices of the SAC agreement apply specifically to wetlands:

Appendix D. Alternatives Analysis and Aquatic Resource Avoidance Guidance for Transportation Projects.

Appendix E. Compensatory Mitigation.

Appendix F. Level of Data Needs/Threshold for Involvement.

Appendix L. Monitoring and Evaluation.

For details, see **Section 411.06**.

(4) *Alternative Mitigation Policy Guidance Interagency Implementation Agreement*

The purpose of this February 2000 interagency agreement between Ecology and WDFW and WSDOT is to describe consensus on mitigation policy among the agencies responsible for aquatic resource mitigation, which includes wetland mitigation. Several agencies participated in the development of this policy, including WSDOT, tribal governments, and CTED. Use of the guidance by local governments facilitates a consistent approach to aquatic permitting in the same watershed.

When habitat impacts occur and reconstruction of the same type of habitat is not possible at or near the project site, this policy provides guidance for evaluating alternative types of mitigation that may occur within a watershed.

The agreement recognizes the need to consider the watershed ecosystem as a whole when evaluating impacts. Policy guidance includes agreement on

mitigation requirements, the importance of avoidance measures, minimization of impacts, compensatory mitigation for unavoidable impacts, and other requirements of aquatic resource functions mitigation such as best available science, mitigation plans, and monitoring.

The most detailed part of the policy deals with compensatory mitigation, including policies on preservation and wetland mitigation banking. The agreement is online at:

http://www.wsdot.wa.gov/environment/

Click on Wetlands, then Wetland Related Publications, Then Alternative Mitigation Policy.

Or by direct link:

http://www.wsdot.wa.gov/environment/biology/docs/AlternativeMitigationPolicy2000.pdf

Alternative Mitigation Policy Guidance Interagency Implementing Agreement: State of Washington Alternative Mitigation Policy Guidance for Aquatic Permitting Requirements from the Departments of Ecology and Fish and Wildlife. February 10, 2000.

(5) Other Interagency Agreements

For other agreements related to wetlands, please see **Section 431.04** (water resources) and **Section 436.04** (fish and wildlife). See **Appendix E** for a complete index to interagency agreements referenced in the EPM and a summary of provisions related to each phase of the WSDOT Transportation Decision-making Process.

437.05 Technical Guidance

(1) General Guidance

Wetland issues are incorporated into WSDOT's engineering design process. A flow chart showing the typical process and responsibilities for analyzing wetland impacts, evaluating design alternatives, and developing wetland mitigation designs is available. This document and WSDOT information on wetland assessment, mitigation and monitoring are available at the following web site under Wetland Guidelines:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

(a) Required Reports

Wetland reports are required by regulatory agencies for projects in which wetlands may be adversely affected during project construction. These reports are usually required before permits are issued. A typical report submitted for a permit application includes a wetland assessment, an impact assessment, a mitigation proposal, a monitoring plan to determine the success of mitigation, success standards, and contingency plans in case of failure.

In general, WSDOT uses four sequential discipline report checklists as guides to the technical information required in drafting wetland reports.

WSDOT policy is to prepare a Wetland Inventory Discipline Report and/or a Wetland/Biology Discipline Report for each project that will potentially impact wetlands. A Wetland Inventory Report is used for in-house planning; a Wetland/Biology Report is required for permits. The two mitigation discipline reports (Conceptual Mitigation Plan and Wetland Mitigation Plan) are developed when unavoidable adverse impacts are identified. A conceptual mitigation plan is often included in the Wetland/Biology Report.

Key elements in the flow chart, as well as essential coordination that should take place, are elaborated below in descriptions of the four wetland discipline reports. FHWA and other technical guidance information are also cited.

Wetland discipline report templates are currently available on the WSDOT network server. In the future, the templates will be available online at:

http://www.wsdot.wa.gov/environment/

Click on Biology, then Wetlands, then look for the report template under Related Information or under Wetland Publications.

(b) WSDOT GIS Workbench

WSDOT's GIS Workbench, a GIS interface for internal WSDOT use, can be accessed to obtain some of the data necessary to write the wetland reports, including Natural Wetlands Inventory coverage. Local jurisdictions can be contacted to find out whether additional local wetland mapping is available, on GIS or hard copy. When required, WSDOT's GIS staff can process requests for this information. For information on how to access the GIS Workbench, see:

http://www.wsdot.wa.gov/environment/envinfo/default.htm

For a list of current data sets, see WSDOT's web site:

http://www.wsdot.wa.gov/

Click on Maps & Data, then GIS Data Distribution Catalog.

Or by direct link:

http://www.wsdot.wa.gov/mapsdata/geodatacatalog/default.htm

(c) WSDOT Standard Symbols and Conventions

WSDOT Standard Symbols and Conventions for Wetlands and Stormwater Treatment Areas are listed in the *Plans Preparation Manual* (M 22-31). Current standards are located on WSDOT's web site:

http://www.wsdot.wa.gov/

Click on Site Index, then Site Index, then E, then Engineering Publications, then On-Line Technical Manual Library, then search for Plans Preparation Manual.

Or download by direct link:

http://www.wsdot.wa.gov/fasc/EngineeringPublications/manuals/Plnsprep.pdf

Click on Division 5, Contract Plan Standard Symbols, Conventions, and Details; then to Symbols and Conventions, and find page 5-46, Level 31: Wetlands and Stormwater Treatment Areas.

WSDOT mapping conventions for biological reports and plan sheets are under development.

(d) WSDOT Wetland Training

The course titled *Wetlands: Recognition, Regulation, and Resource Value* (Course Code: BKS) is available for WSDOT employees as part of WSDOT's Automated Training Management System (ATMS).

This course is designed to give class participants an understanding of the value of wetlands as a resource; their regulation by local, state, and federal agencies; and methods of wetland identification. Mitigation and wetland policy is discussed, as well as how these environmental issues affect the WSDOT processes for project development.

- Upon completion of the course, participants will be able to:
- Describe the types of wetlands and their significance and values in the environment
- Recognize the steps of the concept of mitigation sequencing and be able to identify mitigation practices
- Determine essential permits and regulations
- Describe the WSDOT wetland policy

(e) WSDOT Technical Guidance Web Site

Several useful links and WSDOT information on wetland assessment, mitigation and monitoring are available at the following web site under Wetland Guidelines:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

(2) Wetland Inventory Discipline Report

Avoiding wetlands or minimizing impacts to wetlands must be considered in all WSDOT projects. The Wetland Inventory Discipline Report checklist is used to identify wetland resources early enough that changes to project alternatives can be considered. The Wetland Inventory Report is prepared by a WSDOT wetland biologist or qualified consultant. It is submitted to the WSDOT Regional Environmental Coordinator and a copy is sent to the WSDOT Project Engineer. The report is used as part of the data for initial development of project design alternatives. Please consult the WSDOT regional environmental office to determine whether this discipline report is required.

As illustrated in the WSDOT flowchart the Wetland Inventory report is integrated with the initial transportation engineering project planning process and is used to develop transportation project alternatives.

These documents and WSDOT information on wetland assessment, mitigation and monitoring are available at the following web site under Wetland Guidelines:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

The Wetland Inventory Discipline Report includes:

Introduction – This part requires information on the location and physical condition of the site and its vicinity, field review, and maps.

Affected Environment – A description (which does not have to include a formal wetland delineation) is required for each wetland identified in the introduction. The description should include connection to other aquatic systems, and data from WDFW's Priority Habitats and Species (PHS) and Natural Heritage Program.

Wetland Map – The location of all identified wetlands, streams, and other surface waters must be clearly shown on a map.

Summary – The summary should include enough detail so it can be used with only minor changes in an EIS or in project designs. It should present recommendations for preliminary impact avoidance and minimization.

(3) Wetland/Biology Discipline Report

This report is prepared after specific project designs and alternatives have been developed. Although this report includes some of the information from the Wetland Inventory Discipline Report, it provides a more detailed analysis than the previous report, and includes more specific information regarding plant and animal communities. This report accurately describes wetlands and other important resources and impacts to those resources for each alternative under consideration. Preparation of this report requires formal delineation of the wetland boundaries, followed by surveying. It identifies wetlands and other key biological resources, and evaluates the ecological significance of each project's potential impacts. This report serves as the starting point for the development of wetland categorization, wetland mitigation planning, and permit applications. Please consult the WSDOT regional environmental office to determine whether this discipline report is required.

A checklist used to guide preparation of the report, and WSDOT information on wetland assessment, mitigation and monitoring can be found at the following web site under Wetland Guidelines:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

(a) Contents

A standard wetland report template and other information relating to wetland assessment, mitigation and monitoring is available to WSDOT staff at the following web site under Wetland Guidance:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

(b) Reference – Wetland Functions Characterization Tool for Linear Projects (WSDOT)

This tool uses Best Professional Judgment (BPJ) to assess wetland functions consistently and rapidly. The document consists of a guidance section, references, and appendices containing a glossary, a key to wetland classification, and a set of blank forms.

This wetland assessment tool is not intended to substitute for or replace Ecology's *Methods for Assessing Wetland Functions* tool (listed in **Section 437.05(7)**). The WSDOT tool does not attempt to quantify wetland function, nor does it provide for comprehensive study of an entire wetland system. The Ecology function assessment model requires that quantitative data be gathered from each wetland in its entirety, which is unfeasible for WSDOT linear project evaluations due to right of way and site entry constraints, staff time requirements, and data collection requirements disproportional to the size of the impacts.

The WSDOT tool allows evaluation of hydrological functions such as water quantity and quality, biological functions such as wildlife habitat suitability and fish habitat, and general wetland attributes such as wetland classes and wetland quality. This tool is available on the WSDOT web site:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

(4) Conceptual Mitigation Discipline Report

The Conceptual Mitigation Discipline Report Checklist is used to produce the Conceptual Wetland Mitigation Plan, which is a rough guide to early mitigation site selection in projects with anticipated wetland impacts. This document and WSDOT information on wetland assessment, mitigation and monitoring are available at the following web site under Wetland Guidelines:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

The checklist should help provide enough information for WSDOT and resource agency personnel to agree upon or reject a mitigation proposal before a detailed analysis is done. Depending on the particular project and its potential impacts, the conceptual mitigation report is used either as an internal WSDOT document, or to coordinate with other agencies at an early stage of project development. Several reference documents to assist in preparing the Conceptual Mitigation Discipline Report are cited below. Please consult the WSDOT regional environmental office to determine whether this discipline report is required.

(a) Contents

Projects with anticipated wetland impacts require a Conceptual Mitigation report to assist in evaluating location and design alternatives. Based on the Wetland/Biology and the Conceptual Mitigation reports, regulatory and resource agency comments on the preferred alternative and anticipated unavoidable wetland impacts should be obtained in writing at this stage of the project. The WSDOT Regional Environmental Manager is responsible for completing this analysis and for obtaining regulatory agency comment. (Permits and approvals that may be required are listed in **Section 437.06**.)

The Conceptual Mitigation Discipline Report includes:

Introduction – Background information on the site is presented, a general mitigation strategy is proposed, and potential problems that need to be resolved are revealed.

Wetland Impacts – This includes a summary table showing wetland characteristics and the acreage impacted.

Proposed Mitigation – This includes required mitigation ratios, site description, and general mitigation strategy such as creation, enhancement, or preservation.

Action Items – Problems and data needs are identified.

Figures – Large-scale vicinity maps, mitigation site maps, and sketches of proposed mitigation plans are included.

Additional information is available on the following web site under Wetland Guidance:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

(b) References and Guidance on Mitigation Banking

Wetland mitigation banks are an important tool in providing compensatory mitigation for unavoidable impacts to wetlands. Federal, state, and local governments may authorize the establishment and use of public and private wetland mitigation banks. Terminology specific to wetland banking is included in **Exhibit 437-1**, and is also located online at:

http://www.wsdot.wa.gov/environment/

Click on Wetland Information, then Alternative Mitigation/Wetland Banking.

Or by direct link:

http://www.wsdot.wa.gov/environment/biology/bio_mitbank.htm

The Department of Ecology has developed a draft rule on wetland mitigation banking, and information can be viewed at:

http://www.ecy.wa.gov/

Click on Programs, then Shorelands and Environmental assistance, then Wetlands, then Wetlands Mitigation.

Or by direct link:

http://www.ecy.wa.gov/programs/sea/wetmitig/index.html

WSDOT participates in the Ecology-led Wetland Mitigation Banking Advisory Team. The advisory team is in the process of developing a rule for the certification, operation, and monitoring of wetland mitigation banks. The rule will include the following elements:

- Giving priority to banks providing for the restoration of degraded or former wetlands.

- Certifying banks involving the creation and enhancement of wetlands only when there are adequate assurances of success and that the bank will result in an overall environmental benefit.
- Possibly certifying preservation-only banks.
- Requiring mitigation sequencing, with avoidance and minimization of impacts, for projects proposing to use wetland bank credits.

(c) Reference on Wetland Preservation

Most federal, state, and local agencies allow the use of wetland preservation as a compensatory mitigation measure under specific conditions. The use of preservation as the sole compensation is discouraged; preservation should only be used when all other compensatory measures have been considered and stand-alone preservation is the best alternative. Concurrence from the permitting agencies is necessary.

WSDOT guidance on the use of wetland preservation as a mitigation tool is available in *Mitigation Tools for Special Circumstances: Preservation of High Quality Wetlands* (June 1999). The WSDOT guidance document includes proposed mitigation ratios when preservation is used. Criteria for selecting preservation sites include Ecology's four-tier wetland rating system. This document is available on the WSDOT web site:

http://www.wsdot.wa.gov/environment/

Click on Wetland Information, then Wetland Related Publications, then Preservation as a Mitigation Tool.

Or by direct link:

http://www.wsdot.wa.gov/environment/biology/docs/Wetland_Preservation.pdf

(5) Wetland Mitigation Plan Discipline Report (Draft and Final)

(a) Draft Wetland Mitigation Plan

After the site(s) for wetland mitigation have been identified for each alternative under detailed consideration, the WSDOT landscape architect and wetland biologist, in consultation with the Regional Environmental Coordinator and project engineer, prepare the Draft Wetland Mitigation Plan Discipline Report. The report is prepared after a preferred mitigation site has been selected but before detailed data collection or planning have taken place. Although some variation occurs between regions, the general mitigation report process is outlined in this manual. Please consult the WSDOT regional environmental office to determine whether this discipline report is required.

The Draft Wetland Mitigation Plan Report is normally submitted with wetland-related permit applications. The WSDOT checklist is a guide to preparing the draft plan. The Draft Wetland Mitigation Plan Report provides detailed information about the project, design measures taken to avoid or minimize wetland impacts, and the measures proposed to

compensate for unavoidable impacts. The draft document includes enough detail for agencies to understand WSDOT's mitigation plans and to make suggestions regarding permits. This prevents investing too much in the design of a mitigation plan that may not meet regulatory or legal needs. This document and WSDOT information on wetland assessment, mitigation and monitoring are available at the following web site under Wetland Guidelines:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

The Draft Wetland Mitigation Plan is reviewed by regional or Olympia Service Center design, landscape architect, horticultural, maintenance, and real estate service/right of way offices before detailed discussion occurs with regulatory and resource agency personnel. A maintenance estimate should accompany the draft document. WSDOT Region Environmental Manager is responsible for coordinating the appropriate review within the region.

A Wetland Mitigation Plan Discipline Report includes:

- ***Introduction*** – Overview of the Mitigation Plan.
- ***Document Sections*** – Project description, detail of design decisions made to avoid or minimize wetland impacts, and a detailed description of the affected wetlands and their functions.
- ***Proposed Compensatory Mitigation*** – Mitigation ratios required and actual acreage created, enhanced, or preserved.
- ***Description of Mitigation Site*** – Detailed site description and the rationale for choosing the site.
- ***Mitigation Strategy*** – Description of the mitigation strategy; must include objectives, performance measures, and standards of success.
- ***Construction and Planting Schedules*** – Monitoring plan, contingency plans, and maintenance provisions.
- ***References*** – Wetland rating systems, maps, and types of wetland classification used in the mitigation plan. (Many of these references also appear in the Wetland/Biology Report, which is attached as an appendix.)
- ***Figures –*** Vicinity and site maps, a grading plan, and a planting plan. Grading and planting plans may be in rough form in the draft report.
- ***Appendices*** – Plant scientific names, wetland data sheets such as wetland delineation forms, and the Wetland/Biology Report.

After WSDOT reviews and comments, regulatory and resource agency staff review the project proposal and the Draft Mitigation Plan. Copies of the Draft Mitigation Plan should be supplied to all agencies and parties concerned. For projects requiring an EIS, information from the Draft Mitigation Plan is incorporated into the DEIS for agency and public review. Regulatory agencies should provide written conditional approval

of the Draft Mitigation Plan before work proceeds any further. Coordination and effective communication at this stage speed up the permit review process. An on-site review of the project and discussion of proposed wetland mitigation is also advisable in most cases.

At the same time that the Draft Mitigation Plan is supplied to regulatory and resource agencies, the Regional Environmental Coordinator initiates permit applications. While complete information on impacts and mitigation is not available until after review of environmental documents, initial information supplied at this time will assist in starting the permit process. The September 17, 2002, Signatory Agency Committee Agreement with the Corps and the July 1, 1993, Implementing Agreement with Ecology promote and support this "phased" approach to permit processing. These agreements are online at:

http://wsdot.wa.gov/environment/compliance/agreements.htm

WSDOT information on wetland assessment, mitigation and monitoring are available at the following web site under Wetland Guidelines:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

Permits required by local jurisdictions should also be applied for at this stage. Permits and approvals that may be required are listed in **Section 437.06**.

(b) Reference on Success Standards

The development of complete, well-articulated performance criteria is a key component of each wetland mitigation plan. A performance criterion is a clear description of a measurable standard, desired state, threshold value, amount of change, or trend used to achieve for a particular population or habitat characteristic. It may also set a limit on the extent of an undesirable change.

In order to ensure that mitigation site success criteria are measurable, Environmental Services Office Wetland Assessment and Monitoring Program staff must review all proposed mitigation plans prior to submittal with the permitting agencies.

For more information, visit the following web site under Wetland Guidance:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

(c) Description and Reference on Mitigation Monitoring

Wetlands are dynamic systems where plant communities can evolve rapidly as conditions change. When activities such as excavation, grading, or hydrology modification occur, the wetland response is difficult to predict. Consequently, wetland creation, restoration, rehabilitation, and enhancement projects are challenging to monitor.

Static monitoring plans do not adequately address the possibility of dynamic change in the plant communities they are intended to measure. As a result, the WSDOT Monitoring Program uses a flexible monitoring strategy that adjusts to

temporal changes observed in wetland plant communities. Information from monitoring is incorporated into an adaptive management plan intended to guide site management activities.

Adaptive management is a process with two key components (Elzinga et al., 1998). One component is that monitoring is appropriate only if opportunities for change in management activities exist. The second component is that monitoring is driven by objectives. The performance objective describes the desired condition, and management activities are planned to help the site meet that performance objective. Monitoring activities are designed to determine if the objective has been achieved. Valid monitoring data is critical to making meaningful management decisions that help the site meet its objectives.

Monitoring plans and strategies for measuring success standards are based on site conditions and plant community development. These factors are considered with performance objectives and success standards to develop site-specific monitoring plans at the beginning of each field season. Appropriate monitoring activities are used to ensure valid data is used to guide site management decisions.

For more information, see Elzinga, C. L., D. W. Salzer, and J. W. Willoughby, *Measuring and Monitoring Plant Populations*, Bureau of Land Management Technical Reference 1730-1, BLM/RS/ST-98/005+1730, 1998.

Monitoring protocols are available online under Wetland Guidance at

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

(d) *Final Wetland Mitigation Plan*

The Final Wetland Mitigation Plan is the document of record for compliance with the permit conditions. Work on the Final Wetland Mitigation Plan should not begin until the appropriate review agencies have provided written conditional approval of the Draft Mitigation Plan. This approval is contingent on the following conditions:

- The Final Wetland Mitigation Plan will not be substantially different from the Draft Plan.
- The Final Wetland Mitigation Plan will adequately demonstrate the likely success of the mitigation project.

The Final Wetland Mitigation Plan is completed only for the selected preferred alternative. In addition to including all elements of the Draft Mitigation Plan, the Final Plan must include a general grading plan and a revegetation plan. The WSDOT checklist is a guide to preparing the final plan. This document and WSDOT information on wetland assessment, mitigation and monitoring are available at the following web site under Wetland Guidelines:

http://www.wsdot.wa.gov/environment/biology/bio_wetlands.htm

The following features must be included in both the draft and final plans:

- A contour map of the mitigation project. Provide sufficient information so water depths, open water areas, boundary areas, and

other features can be visualized. Seasonal ground water and the sources of hydrology for the site should be evident.

- A list of native plants to be used and general planting plan to illustrate the planting concept for the site. Reviewers need to know what species will be planted, in what proportions, and their general locations.
- Construction sequence and schedule.
- Steps to be used to minimize damage to surrounding buffers or wetlands during site construction.
- Methods for controlling invasive species.
- A description and map of the plant communities that make up the wetland buffer.

Within a month of construction and planting, as-built plans should be sent to the lead agency, including an as-built topographic survey, plant species and quantities used, photographs of the site, and notes about any changes to the original approved plan. Also list the contractor's responsibility concerning plant replacement, fertilization and irrigation, protection from wildlife, and contingency plan requirements.

The maintenance plan submitted with the Final Wetland Mitigation Plan must describe planned maintenance activities, including erosion control and protection of plant materials from herbivores, repair of damage from vandalism, and other activities that may be required over time to maintain site viability.

Contingency plans should be developed in the event of failure or partial failure of mitigation measures. A contingency plan must outline the steps that will be taken if success standards are not met.

After completing the Final Wetland Mitigation Plan, regional environmental staff supply the regulatory agencies with any remaining information required to complete permit applications. If coordination and involvement have taken place in the appropriate manner prior to this stage, permits should be granted with a minimum of delay.

As illustrated in the WSDOT flowchart, a constructability review occurs when the design plan is about 30 percent complete. The constructability review serves to provide the opportunity for consensus among stakeholders.

After permits are received from regulatory agencies, the Mitigation Plan is finalized. The design plan is put in PS&E format after in-house review. Responsibility for this task rests jointly with the project engineer, regional environmental manager, and the regional landscape architect or landscape designer.

(6) Isolated Wetlands Guidance

Isolated wetlands are defined as wetlands not connected by surface hydrology to recognized water bodies such as rivers, streams, lakes and bays. These wetlands

were removed from Section 404 jurisdiction by the U.S. Supreme Court in *SWANCC v. U.S. Army Corps of Engineers.* Ecology has broad authority under the Water Pollution Control Act to control and prevent the pollution of streams, lakes, rivers, ponds, inland waters, salt waters, and other waters of the state. Isolated wetlands are considered waters of the state. See **Section 540.13** for details.

Up-to-date information on how isolated wetlands are regulated is also summarized in a guidance paper available at:

http://www.wsdot.wa.gov/environment/biology/wet_policypapers.htm

(7) High Visibility Fencing

To prevent permit violations during construction, WSDOT Project Delivery Memo #04-04 (August 11, 2004) describes requirements for high-visibility fencing to delineate wetlands and sensitive areas. The memo outlines criteria for identifying wetland and environmentally sensitive areas during project development; contract plans are to identify these areas and show the location of high visibility fencing. See **Section 690.02** for details.

(8) Other WSDOT Technical Guidance

- *WSDOT Design Manual* (M 22-01), Chapters 220 and 240 of the manual are currently being updated. Chapter 220 addresses project environmental documentation while Chapter 240 lists a variety of environmental permits and approvals from government agencies, permit requirements, when to initiate the permits, and the applicable laws or rules. The wetland-applicable permits and approvals listed in the *Design Manual* are described in this latter chapter.
- *WSDOT Roadside Manual* (M 25-30) (July 2003). This manual describes procedures for coordination between all WSDOT partners responsible for roadside activities, including wetland protection.

(9) Ecology Technical Guidance

The following Ecology publications are useful sources of information for a range of wetland issues:

- Washington State Wetlands Rating System for Western Washington, #93-74 as revised.
- Washington State Wetlands Rating System for Eastern Washington, #91-58 as revised.
- Wetland Regulations Guidebook, #88-5. Revised 1994.
- Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals, #94-29.
- Washington State Wetlands Identification and Delineation Manual, #96-94.
- Wetlands Mitigation Replacement Ratios: Defining Equivalency, #92-8.
- Restoring Wetlands in Washington: A Guidebook for Wetland Restoration, Planning and Implementation, #93-17.
- Restoring Wetlands at a River Basin Scale: A Guide for Washington's Puget Sound. Operational Draft, #97-99.

- Methods for Assessing Wetland Functions Volume 1, Riverine and Depressional Wetlands in the Lowlands of Western Washington, Part 1, Assessment Methods, #99-115.
- Methods for Assessing Wetland Functions Volume 1, Riverine and Depressional Wetlands in the Lowlands of Western Washington, Part 2, Procedures for Collecting Data, #99-116.

Many of these and other wetland-related publications are available electronically at the web site below. The web site also gives information on how to order copies of the publications.

http://www.ecy.wa.gov/pubs.shtm

Click on Publications, then Publications Index, then Shorelands and Environmental Assistance.

Or by direct link:

http://www.ecy.wa.gov/programs/sea/wet-updatedocs.htm

(10) FHWA Technical Guidance

(a) FHWA Technical Advisory

FHWA Technical Advisory T 6640.8A (October 1987) gives guidelines for preparing environmental documents. Wetland issues that should be addressed in the EIS include wetland identification and assessment, impacts to wetlands, evaluation of project alternatives, and identification of practicable measures to minimize adverse impacts.

If the preferred alternative is located in wetlands, the final EIS needs to contain a separate subsection entitled "Only Practicable Alternative Finding." The subsection should include a reference to Executive Order 11990 (see **Section 437.03**), an explanation for why there are no practicable alternatives, an explanation for why the proposed action includes all practicable measures to minimize harm to wetlands, and a concluding statement that: "Based upon the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use."

The four WSDOT wetland discipline reports are structured to provide the information necessary to meet the requirements of FHWA's technical advisory. For details, see FHWA's home page:

http://www.fhwa.dot.gov/

Click on Legislation and Regulations, then FWHA Directives and Policy Memorandums, then FHWA Technical Advisories, the T6640.8A.

Or by direct link:

http://www.fhwa.dot.gov/legsregs/directives/techadvs/t664008a.htm

(b) FHWA Environmental Guidebook

FHWA's online Environmental Guidebook includes information on several federal wetland issues, including Section 404 permit requirements and agreements. Refer to FHWA's web site:

http://www.fhwa.dot.gov/

Click on FHWA Programs, then Environment, then Environmental Guidebook, then Index. Select Wetlands or Section 404 Permits.

Or by direct link:

http://environment.fhwa.dot.gov/guidebook/index.htm

(c) FHWA Wetlands Analysis and Design

The FHWA web site below includes information on the wetland analysis/design and permitting phase of project development; documents, brochures, and other products; a gallery of wetland pictures; and links to several other wetland web sites.

http://www.fhwa.dot.gov/

Click on FHWA Programs, then Environment, then Natural Environment, then Wetlands.

Or by direct link:

http://environment.fhwa.dot.gov/guidebook/chapters/v1ch14.htm

(d) FHWA Documents

The FHWA web site below includes abstracts for documents produced by or for the FHWA regarding wetlands. Many of the documents can be downloaded.

http://www.fhwa.dot.gov/environment/wetland/wet_abs.htm

(11) USEPA Guidance

The USEPA Office of Water provides information on wetland laws, regulations, and guidance at:

http://www.epa.gov/

Click on Programs, then Offices, then Office of Water. Under Wetlands, Oceans and Watersheds, select Wetlands, then click on Laws, Regulations, Guidance, and Scientific Documents.

Or by direct link:

http://www.epa.gov/owow/wetlands/laws/

437.06 Permits and Approvals

Permits relating to wetlands are addressed in the following sections:

Federal

- Section 520.02 – Section 404 Permit

Tribal

- Section 530.03 – Tribal consultation or approval required under federal statutes: Clean Water Act Section 401 (Chehalis and Puyallup)

State

- Section 540.02 – Section 401 Water Quality Certification
- Section 540.03 – Coastal Zone Management Consistency Certification
- Section 540.08 – Other NPDES Permits (programmatic permits on use of herbicides for control of noxious and nuisance aquatic plants, and pesticides for mosquito control)
- Section 540.13 – Isolated Wetlands
- Section 540.25 – Other State Approvals (temporary exceedance of water quality standards)

Local

- Section 550.02 – Shoreline Permits
- Section 550.04 – Critical Areas Ordinance Compliance

437.07 Non-Road Project Requirements

Ferry, rail, airport, or non-motorized transport systems are generally subject to the same policies, procedures, or permits that apply to road systems.

Rail – Because WSDOT does not own railroad tracks or rail right-of-way, regulatory requirements for rail projects are coordinated with Burlington Northern & Santa Fe Railway company.

Airports – Public-use airports must address wildlife issues, including wetlands that are hazardous on or near airports. These issues are addressed in the Federal Aviation Administration (FAA) Advisory Circular *Hazardous Wildlife Attractants on or Near Airports* (No: 150/5200-33A), July 27, 2004.

This advisory circular provides guidance on land use practices, including wetlands, that have the potential to attract hazardous wildlife to the vicinity of airports.

- Section 1 describes types of hazardous wildlife attractants on or near airports, land use practices that attract wildlife, and siting criteria for airport projects.
- Section 2 provides information on land uses that are incompatible with safe airport operations. Wetlands are singled out because wetlands are attractive to many species of wildlife.
- Section 3 lists land uses that may be compatible with safe airport operations. Agricultural land is given special attention. Wetland areas may be associated with land uses such as landscaping, golf courses, and agricultural crops.
- Section 4 provides guidance on notifying the FAA about hazardous wildlife attractants, including wetlands.

The circular is online at FAA's web site:

http://www.faa.gov/

Go to the "Quick Find" window and bring up Advisory Circulars, then type 150/5200-33A in the "Search" window, then scroll down to # 1.

Or by direct link:

http://www.faa.gov/arp/publications/acs/5200-33A.pdf

437.08 Exhibits

Exhibit 437-1 – Wetland Glossary.

Wetland Glossary

Compensatory Mitigation – The restoration, creation, enhancement, or in exceptional circumstances, preservation of wetlands and/or other aquatic resources expressly for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization have been achieved. (See also **Mitigation Bank**.)

Conceptual Mitigation Plan – A document that includes the transportation project description, wetland impacts, and discussion of the mitigation concepts.

Constructed Wetlands – Areas created or restored specifically to treat either point or nonpoint source pollution wastewater. Although a constructed wetland might look the same as a created wetland, different regulations apply. Design and maintenance of constructed wetlands is determined according to their stormwater and hydraulic functions. Vegetation is used to maximize the desired functions.

Created Wetlands – (See **Establishment** below).

Delineated Wetlands – Wetlands whose boundaries have been identified by a qualified biologist using a standard delineation methodology evaluating soils, vegetation, and hydrology. A right of entry might be required to formally delineate a wetland for project purposes if it does not occur entirely on WSDOT right of way. The delineated boundary is flagged in the field and surveyed. The biology report includes the delineation survey with flag locations and numbering.

Enhancement – The manipulation of the physical, chemical, or biological characteristics of a wetland site to heighten, intensify or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention or wildlife habitat. Activities typically consist of planting vegetation, controlling non-native or invasive species, modifying site elevations or the proportion of open water to influence hydroperiods, or some combination of these. Enhancement results in a change in wetland functions and can lead to a decline in other wetland functions, but does not result in a gain in wetland acres.

Establishment (Formerly **Creation**) – The manipulation of the physical, chemical, or biological characteristics present to develop a wetland on an upland or deepwater site, where a wetland did not previously exist. Activities typically involve excavation of upland soils to elevations that will produce a wetland hydroperiod, hydric soils, and support the growth of hydrophytic plant species. Establishment results in a gain in wetland acres.

Exotic Species – Species found in, but not native to, a particular area.

Final Wetland Mitigation Plan – A document that includes description of all wetlands in the project area, wetland site plan, wetland site plan, wetland revegetation plan, standards of success, operation and maintenance of the mitigation site, and the monitoring plan.

Function Assessment – Systematic method(s) designed to evaluate the presence and level of performance of wetland functions. Function Assessment methods include, but are not limited to, Reppert et al., Habitat Evaluation Procedure, Wetland Evaluation Technique, Indicator Value Assessment, WSDOT's BPJ Characterization Tool for Linear Projects, and Hydrogeomorphic methods.

Groundwater – Water that occurs below the surface of the earth, contained in pore spaces. It is either passing through or standing in the soil and underlying strata and is free to move under the influence of gravity.

Habitat – The environment occupied by individuals of a particular species, population, or community.

Hydrology – The science that relates to the occurrence, properties, and movement of water on the earth. It includes water found in the oceans, lakes, wetlands, streams, and rivers, as well as in upland areas, above and below ground, and in the atmosphere.

Impact – An action that adversely affects a wetland or other ecosystem; for example, road construction, timber clearing, or agricultural activities that result in wetland conversion or degradation.

Indicator – One of the specific environmental attributes measured or quantified through field sampling, remote sensing, or compilation of existing data from maps or land use reports, used to assess ecosystem condition or functions or exposure to environmental stress agents.

In-kind Compensation – Development of wetlands that are of the same system and class, as defined by Cowardin et al., (1979) in Classification of Wetlands and Deepwater Habitats of the United States, and that provide similar wetland functions and values as those wetlands adversely impacted by development activities.

Invasive Vegetation – Those (typically) nonnative plant species that often out compete native plant communities.

Jurisdictional Wetlands – All naturally occurring wetlands, some wetlands unintentionally created as the result of construction activities, and those created specifically for the compensation of wetland losses. These wetlands are regulated by the Army Corps of Engineers and local jurisdictions. (Ditches created in non-wetland areas that support wetland vegetation are not usually considered jurisdictional wetlands.) Check with the Environmental Services Office for site-specific clarification.

Mitigation – Mitigation means sequentially avoiding impacts, minimizing impacts, and compensating for remaining unavoidable impacts. In the following order of decreasing preference, mitigation is:

a. Avoiding the impact altogether by not taking a certain action or part of an action. Avoidance has the greatest reliability and is the simplest and most effective way to minimize impacts.

b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts.

c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.

d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

e. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments.

Mitigation Bank – A site where wetlands are restored, created, enhanced, or in exceptional circumstances, preserved, expressly for the purpose of providing compensatory mitigation in advance of authorized impacts to aquatic resources. .

Mitigation Bank Credit – A unit of trade representing the increase in the ecological value of the site, as measured by acreage, functions, and values, or by some other assessment method.

Mitigation Bank Currency – The medium of exchange of credits for debits in a mitigation bank. The currency represents an amount of wetland area and functions and values.

Mitigation Bank Debit Project – A project that uses credits from a wetland mitigation bank to fulfill regulatory requirements for compensation of impacts to aquatic resources. A debit project may require more than one regulatory approval under federal, state and local rules.

Mitigation Bank Instrument (MBI) – The documentation of agency and bank sponsor concurrence on the objectives and administration of the bank. The MBI describes in detail the physical and legal characteristics of the bank, including the service area, and how the bank will be established and operated.

Mitigation Bank Service Area – A designated geographic area (e.g., watershed, county) wherein a mitigation bank can reasonably be expected to provide appropriate compensation for impacts to wetlands and/or other aquatic resources.

Mitigation Bank Sponsor – Any public or private entity responsible for establishing and, in most circumstances, operating a mitigation bank.

Monitoring – The systematic evaluation of a mitigation site to determine the degree to which the site meets its performance standards and to determine if modifications in the maintenance or management of the site is necessary to achieve the ultimate success standards.

Natural Wetlands – Wetlands that exist due to natural forces alone, or unintentionally developed through construction or management practices which alter hydrology. Natural wetlands can be found in unusual areas, including filled areas, some ditches, inactive borrow pits, ponds, and agricultural fields. Natural wetlands are protected by federal, state, and local regulations as well as WSDOT's internal policies.

Non-jurisdictional Wetlands – Non-jurisdictional wetlands include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, canals excavated in uplands, stormwater detention ponds, wastewater treatment facilities created in uplands, and certain agricultural activities and landscape amenities created in uplands. Grass-lined swales and wastewater treatment facilities can be constructed in wetlands but must be so designated and specifically designed for water treatment purposes. Mitigation is required to compensate for the wetland lost to such a facility. The Shoreline Management Act and Growth Management Act include as non-jurisdictional those wetlands created after July 1, 1990, that were unintentionally created as a result o f the construction of a road, street, or highway. WSDOT has a "no net loss" policy regarding wetlands and will mitigate impacts to wetlands created after that date.

Out-of-Kind Compensation – Compensation that replaces one wetland system and class, as defined by Cowardin, with another.

Performance Measures – Quantifiable thresholds of objectives capable of being measured while the site is being monitored during the intermediate years. These parameters provide an indication as to whether or not the site is progressing as intended. Failure to meet a performance measure should initiate adaptive management. .

Preservation (Protection/Maintenance) **–** The removal of a threat to, or preventing the decline of, wetland conditions by an action in or near a wetland. This term includes the purchase of land or easements, repairing water control structures or fences, or structural protection such as repairing a barrier island. This term also includes activities commonly associated with the term preservation. Preservation does not result in a gain of wetland acres but may result in a gain in functions and will be used only in exceptional circumstances.

Restoration – The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland. For the purpose of tracking net gains in wetland acres, restoration is divided into:

> **Re-establishment**: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a **former** wetland. Activities could include removing fill material, plugging ditches, or breaking drain tiles. Re-establishment results in a gain in wetland acres.
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> **Rehabilitation:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions of a degraded wetland. Activities could involve breaching a dike to reconnect wetlands to a floodplain or return tidal influence to a wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres.

Success Standards – Parameters, generally measured during the last (close-out) year of monitoring, to determine whether or not the objectives were achieved, and the site is in compliance with the terms of the permit. A contingency plan, for remediation, is put into effect should the objectives fail to achieve their individual targets.

Wetland – Area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not usually include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities. However, wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate conversion of wetlands, if permitted by the appropriate authority.

Wetland Buffer – The area adjacent to a wetland that serves to protect the wetland from outside influences. Wetland buffers also contribute to the integral functions of the wetland. Regulated buffer widths vary depending upon the quality of the wetland and guidelines established by the local jurisdiction under the state Growth Management Act. Required buffer widths are identified in the project's wetland/biology report. Wetland buffers must be shown on contract plans sheets. No work may occur within an identified wetland buffer area unless it has been approved by the appropriate permitting agency.

Wetland Functions – Wetland functions are the physical, chemical, and biological processes or attributes that are vital to the integrity of wetland/upland landscape interrelationships (landscape systems).

Wetland Inventory – A wetland inventory is a data collection process during which information about the presence, approximate extent, and in some cases the characteristics of wetlands are collected. Inventories can be general (e.g., aerial photographs) or site-specific (through field inventory work).

Wetland Values – Wetland values are those attributes that, although not necessarily essential to the integrity of the landscape systems, are perceived as valuable to society (Adamus et al., 1991).